AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A method for attenuating an interferer of substantially known spectrum in a communication signal which has been transmitted through a transmission channel and processed through a signal-processing receiver chain, said method comprising:

generating, from the substantially known spectrum and independently of the communication signal, at least one image representative of a replica of the interferer after processing through the signal-processing receiver chain;

subtracting the image from the processed communication signal to produce a subtraction signal;

calculating a quality-indicative parameter of the processed communication signal;

computing said quality-indicative parameter for the subtraction signal; and

selecting, in relation to the quality-indicative parameters, one of the processed communication signal and subtraction signal for further processing through the receiver.

2. (Currently amended) A method for attenuating an interferer as recited in claim 1, wherein:

generating at least one image comprises producing, from the substantially known spectrum and independently of the communication signal, a plurality of different images each representative of a replica of the interferer after processing through the signal-processing receiver chain;

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said subtracting comprises, for each image <u>of the plurality of different</u> <u>images</u>, subtracting the image from the processed communication signal to produce a corresponding subtraction signal;

said computing comprises computing said quality-indicative parameter for every subtraction signal; and

said selection comprises selecting, in relation to the quality-indicative parameters, one of the processed communication signal and subtraction signals for further processing through the receiver.

3. (Original) A method for attenuating an interferer as recited in claim 1, wherein:

generating at least one image comprises feedback controlling, in relation to the quality-indicative parameter of the subtraction signal, at least one feature of the image to improve said quality-indicative parameter of the subtraction signal.

4. (Original) A method for attenuating an interferer as recited in claim 3, wherein said at least one feature is an amplitude of the image.

5. (Original) A method for attenuating an interferer as recited in claim 3, wherein said at least one feature is a phase of the image.

6. (Original) A method for attenuating an interferer as recited in claim 1, wherein generating at least one image comprises:

generating said replica of the interferer; and

processing said replica through transfer functions reproducing the signal-processing receiver chain to produce a processed interferer replica.

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7. (Original) A method for attenuating an interferer as recited in claim 6, wherein generating at least one image further comprises amplifying the processed interferer replica to produce the image.

8. (Currently amended) A method for attenuating an interferer as recited in claim 1, wherein generating at least one image representative of a replica of the interferer after processing through the signal-processing receiver chain said replica comprises generating a silent replica of the interferer including no voice or data component.

9. (Original) A method for attenuating an interferer as recited in claim 1, wherein:
- the interferer is a narrowband interferer;
- the communication signal is a spread spectrum signal;
- the signal-processing receiver chain incorporates a despreading scheme whose function is to convert the spread spectrum signal to a despread signal; and
- generating at least one image comprises:.
- producing a replica of the narrowband interferer;
- processing said replica through transfer functions reproducing the signal-processing receiver chain including the despeading scheme.

10. (Currently amended) A method for attenuating an interferer as recited in claim 9, wherein the narrowband inteferer interferer is an AMPS interferer, and the spread spectrum signal is a CDMA spread spectrum signal.

11. (Currently amended) A method for attenuating an interferer as recited in claim 10, wherein the quality-indicative parameters are BER measurements of the despread signal and subtraction signal.

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12. (Original) A method for attenuating an interferer as recited in claim 10, wherein producing a replica of the AMPS interferer comprises producing a silent replica of the AMPS interferer including no voice or data component.

13. (Currently amended) A method for attenuating an interferer as recited in claim 6, comprising both generating said replica of the interferer and processing said replica through transfer functions are conducted through ~~through~~ a digital implementation.

14. (Currently amended) A method for attenuating an interferer as recited in claim 13, wherein said digital implementation is selected from ~~the~~ a group consisting of software, firmware and ASIC.

15. (Currently amended) A method for attenuating an interferer from a communication signal which has been transmitted through a transmission channel and processed through a signal-processing receiver chain, said method comprising:

generating a plurality of images of the interferer having different features being the phase and the amplitude of the images;

for each interferer image, subtracting said interferer image from the processed communication signal to produce a corresponding subtraction signal;

calculating a quality-indicative parameter of the processed communication signal;

computing said quality-indicative parameter for every subtraction signal; and

selecting, in relation to the quality-indicative parameters, one of the processed communication signal and subtraction signals for further processing through the signal-processing receiver chain.

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16-17. (Canceled)

18. (Currently amended) A method for attenuating an interferer as recited in claim 15, wherein:

- the interferer is selected from ~~the~~ a group consisting of a narrowband AMPS interferer, a TDMA interferer and a GSM interferer;

- the communication signal is a CDMA spread spectrum signal;

- the signal-processing receiver chain incorporates a despreading scheme whose function is to convert the CDMA spread spectrum signal to a despread baseband signal; and

- the quality-indicative parameters are BER measurements of the despread baseband signal and subtraction signals.

19. (Currently amended) A method for attenuating an interferer as recited in claim 15, wherein generating ~~one~~ the plurality of ~~said~~ images comprises feedback controlling, in relation to the quality-indicative parameter of one of the subtraction signals corresponding to ~~said one~~ the plurality of images, the features of ~~said one~~ the plurality of images in view of improving the quality-indicative parameter of ~~said one~~ every subtraction signal.

20. (Currently amended) A method for attenuating an interferer as recited in claim 19, wherein feedback ~~control~~ controlling of the feature of said one image comprises controlling the feature of said one image also in relation to said selection to improve the quality-indicative parameter of ~~said one~~ every subtraction signal until said subtraction signal is selected for further processing through the signal-processing receiver chain.

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21. (Currently amended) A method for attenuating an interferer from a communication signal which has been transmitted through a transmission channel and processed through a signal-processing receiver chain, said method comprising:

generating an image of the interferer;

subtracting the interferer image from the processed communication signal to produce a subtraction signal; ·

calculating a quality-indicative parameter of the processed communication signal;

computing said quality-indicative parameter for the subtraction signal; and ·

selecting, in relation to the quality-indicative parameters, one of the processed communication signal and subtraction signal for further processing through the signal-processing receiver chain;

wherein generating an image of the interferer comprises feedback controlling, in relation to the quality-indicative parameter of the subtraction signal, at least one feature of the image in view of improving said quality-indicative parameter of the subtraction signal.

22. (Currently amended) A method for attenuating an interferer as recited in claim 21, wherein feedback ~~control~~ controlling of at least one feature of the image comprises controlling said at least one feature also in relation to said ~~selection~~ selecting to improve the quality-indicative parameter of the subtraction signal until said subtraction signal is selected for further processing through the signal-processing receiver chain.

23. (Currently amended) A method for attenuating an interferer as recited in claim 21, wherein:

- the interferer is selected from ~~the~~ a group consisting of: a narrowband. AMPS interferer, a TDMA interferer and a GSM interferer;

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- the communication signal is a CDMA spread spectrum signal;

- the signal-processing receiver chain incorporates a despreading scheme whose function is to convert the CDMA spread spectrum signal to a despread baseband signal; and

- the quality-indicative parameters are BER measurements of the despread baseband signal and subtraction signal.

24. (Currently amended) A device for attenuating an interferer of substantially known spectrum in a communication signal which has been transmitted through a transmission channel and processed through a signal-processing receiver chain, said device comprising:

a generator of at least one image representative of a replica of the interferer after processing through the signal-processing receiver chain, said generator having image generating means responsive to the substantially known spectrum of the interferer but having no connection to the communication signal;

a subtractor of the image from the processed communication signal to produce a subtraction signal;

a first calculator of a quality-indicative parameter of the processed communication signal;

a second calculator of said quality-indicative parameter for the subtraction signal; and

a selector of one of the processed communication signal and subtraction signal in relation to the quality-indicative parameters, for further processing through the signal-processing receiver chain.

25. (Canceled)

26. (Currently amended) A device for attenuating an interferer as recited in claim 25 24, wherein the image generating means further comprises an

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amplifier ~~supplied-with-the-processed-interferer-replica-from-the-processor-to apply~~ for applying a gain to said ~~processed-interferer-replica~~ the at least one image representative of a replica of the interferer and thereby produce the image.

27. (Original) A device for attenuating an interferer as recited in claim 24, wherein said replica is a silent replica of the interferer including no voice or data component.

28. (Currently amended) A device for attenuating an interferer as recited in claim 24, wherein:
- the interferer is a narrowband interferer;
- the communication signal is a spread spectrum signal;
- the signal-processing receiver chain incorporates a despreading scheme whose function is to convert the spread spectrum signal to a despread signal; and
- the generator comprises:
- a sub-generator of a replica of the narrowband interferer;
~~a processor of said narrowband interferer replica, said processor comprising transfer functions reproducing the signal-processing receiver chain incorporating the despreading scheme.~~

29. (Currently amended) A device for attenuating an interferer as recited in claim 28, wherein the narrowband ~~inteferer~~ interferer is an AMPS interferer, and the spread spectrum signal is an CDMA spread spectrum signal.

30. (Original) A device for attenuating an interferer as recited in claim 29, wherein the first and second calculators comprises respective BER measurement means.

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31. (Canceled)

32. (Currently amended) A device for attenuating an interferer as recited in claim ~~25~~ 28, wherein said sub-generator ~~and said processor~~ comprises a digital implementation.

33. (Currently amended) A device for attenuating an interferer as recited in claim 32, wherein said digital implementation is selected from ~~the~~ a group consisting of: software, firmware and ASIC.

34. (Currently amended) A device for attenuating an interferer of substantially known spectrum in a communication signal which has been transmitted through a transmission channel and processed through a signal-processing receiver chain, said device comprising:

means for generating, in relation to the substantially known spectrum but independently of the communication signal, at least one image representative of a replica of the interferer after processing through the signal-processing receiver chain;

means for subtracting the image from the processed communication signal to produce a subtraction signal;

means for calculating a quality-indicative parameter of the processed communication signal;

means for calculating said quality-indicative parameter for the subtraction signal; and

means for selecting, in relation to the quality-indicative parameters, one of the processed communication signal and subtraction signal for further processing through the signal-processing receiver chain.

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35. (Currently amended) A device for attenuating an interferer from a communication signal which has been transmitted through a transmission channel and processed through a signal-processing receiver chain, said device comprising:

a generator of a plurality of images of the interferer having different features being the phase and the amplitude of the images;

for each interferer image, a subtractor of said interferer image from the processed communication signal to produce a corresponding subtraction signal;

a first calculator of a quality-indicative parameter of the processed communication signal;

a second calculator of said quality-indicative parameter for every subtraction signal; and

a selector of one of the processed communication signal and subtraction signals in relation to the quality-indicative parameters, for further processing through the signal-processing receiver chain.

36-37. (Canceled)

38. (Currently amended) A device for attenuating an interferer as recited in claim 35, wherein:

- the interferer is selected from the a group consisting of a narrowband AMPS interferer, a TDMA interferer and a GSM interferer;

- the communication signal is a CDMA spread spectrum signal;

- the signal-processing receiver chain incorporates a despreading scheme whose function is to convert the CDMA spread spectrum signal to a despread baseband signal; and

- the first and second calculators comprise respective BER measurement modules which, in operation, supply BER measurements of the despread baseband signal and subtraction signal.

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39. (Currently amended) A device for attenuating an interferer as recited in claim 35, wherein said generator comprises a feedback control of the features of ~~one of said~~ the plurality of images in relation to the quality-indicative parameter of the subtraction signal corresponding ~~to said one~~ the plurality of images, in view of improving the quality-indicative parameter of ~~said one~~ every subtraction signal.

40. (Original) A device for attenuating an interferer as recited in claim 39, wherein said feedback control is also responsive to the selection by said selector.

41. (Currently amended) A device for attenuating an interferer from a communication signal which has been transmitted through a transmission channel and processed through a signal-processing receiver chain, said device comprising:

means for generating a plurality of images of the interferer having different features;

for each interferer image, means for subtracting said interferer image from the processed communication signal to produce a corresponding subtraction signal;

means for calculating a quality-indicative parameter of the processed communication signal;

means for computing said quality-indicative parameter for every subtraction signal; and

means for selecting, in relation to the quality-indicative parameters, one of the processed communication signal and subtraction signals for further processing through the signal-processing receiver chain.

42. (Currently amended) A device for attenuating an interferer from a communication signal which has been transmitted through a transmission

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channel and processed through a signal-processing receiver chain, said device comprising:

a generator of an image of the interferer;

a subtractor of the interferer image from the processed communication signal to produce a subtraction signal;

a first calculator of a quality-indicative parameter of the processed communication signal;

a second calculator of said quality-indicative parameter for the subtraction signal; and

a selector of one of the processed communication signal and subtraction signal in relation to the quality-indicative parameters, for further processing through the receiver;

wherein the generator comprises a feedback control of at least one feature of the image in relation to the quality-indicative parameter of the subtraction signal, in view of improving said quality-indicative parameter of the subtraction signal.

43. (Original) A device for attenuating an interferer as recited in claim 42, wherein said feedback control is responsive to the selection by said selector.

44. (Currently amended) A device for attenuating an interferer as recited in claim 42, wherein:

-        the interferer is selected from the a group consisting of a narrowband AMPS interferer, a TDMA interferer and a GSM interferer;

-        the communication signal is a CDMA spread spectrum signal;

-        the signal-processing receiver chain incorporates a despreading scheme whose function is to convert the CDMA spread spectrum signal to a despread baseband signal; and

-        the first and second calculators comprise respective BER measurement modules.

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45. (Currently amended) A device for attenuating an interferer from a communication signal which has been transmitted through a transmission channel and processed through a signal-processing receiver chain, said device comprising:

means for generating an image of the interferer;

means for subtracting the interferer image from the processed communication signal to produce a subtraction signal;

means for calculating a quality-indicative parameter of the processed communication signal;

means for calculating said quality-indicative parameter for the subtraction signal; and

means for selecting, in relation to the quality-indicative parameters, one of the processed communication signal and subtraction signal for further processing through the receiver;

wherein the means for generating an image of the interferer comprises means for feedback controlling, in relation to the quality-indicative parameter of the subtraction signal, at least one feature of the image in view of improving said quality-indicative parameter of the subtraction signal.

46-49. (Canceled)

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